

Benefit-Cost Analysis Helps St. Louis Earn \$20 Million Grant

by Katie Medlin and Robert Lewis

Development Strategies helped to obtain a \$20 million TIGER grant to fund transportation improvements at the Gateway Arch grounds in downtown St. Louis. TIGER stands for Transportation Investment Generating Economic Recovery and its grants are managed by the U.S. Department of Transportation using funds appropriated by Congress. DOT Secretary Ray LaHood made the announcement on December 15, 2011.

The \$20 million awarded to St. Louis is the highest amount in this third year of TIGER. The money will help to implement an exciting Arch Grounds plan being completed by a planning and design team headed by Michael Van Valkenberg Associates (MVVA) of Brooklyn, New York.

The world-renowned Arch is part of the Jefferson National Expansion Memorial (JNEM), operated by the National Park Service (NPS), and celebrates America's westward expansion. NPS, in turn, is working with the local [City+Arch+River 2015](#) Foundation which sponsors MVVA's plan. CAR 2015 has set October 2015 for most of the plan's implementation in order to celebrate the 50th anniversary of the Arch's construction.

The TIGER grant was technically won by the Missouri Department of Transportation, which is part of the CAR 2015 team. Other organizations

helping to support CAR 2015 include Great Rivers Greenway, the Metro East Parks and Recreation District, the City of St. Louis, East-West Gateway Council of Governments, and the Bi-State Development Agency. Bi-State, operating under the name of Metro, presently manages most of the revenue-generating facilities at the Arch Grounds, including some riverboats, a parking garage, and the trams that carry tourists to the top of the Arch.

The Arch site and its surroundings need updating and greater activation to attract and accommodate more visitors. And the site needs stronger linkages with the downtown business district in order to encourage greater social and economic interaction. This linkage will be addressed by the construction of a park-like pedestrian bridge over the depressed lanes of Interstate 70, which, along with the surface



Image provided by CityArchRiver and MVVA
Proposed plan for the Jefferson National Expansion Memorial and its surroundings.

level Memorial Drive, presently creates a noisy, ugly, and unsafe crossing from downtown St. Louis to the Arch. TIGER will help fund that bridge as well as improvements to highway infrastructure, bicycle lanes along the Mississippi River, and improved street signals in downtown St. Louis to manage traffic redirected by the pedestrian bridge.

Development Strategies worked closely with CAR 2015, MVVA, MoDOT, and other invested parties to develop a benefit-cost analysis, as required for TIGER applications. Our analysis quantified the projected economic, social, and environmental impacts of the proposed transportation improvements. We collected and analyzed data from numerous sources, determined both benefits and costs that would result from the proposed improvements, and developed a mathematical model that demonstrates a positive benefit-cost ratio.

The biggest challenge of benefit-cost analyses (BCA) is not to confuse them with economic impact analyses. The latter often project how many jobs can be created as a result of major investments, like transportation improvements, or how much real estate development might occur. However, economic impacts typically assume that some jobs and development can be attracted from other locations because the new location will have a better infrastructure network. If, for example, the pedestrian bridge encourages more office occupancy because downtown becomes more attractive, some of those jobs might be the result of relocation from the St. Louis suburbs or from other U.S. cities. St. Louis gains while others lose.

The BCA, particularly in the context of TIGER, must address net benefits to the nation as a whole. So simply relocating jobs from, say, Tennessee to St. Louis because of the improvements to I-70 brings no net benefit to the United States even if it does provide net benefits to St. Louis. The BCA, therefore, can assign dollar values only to such shifts that are net improvements. For example, the relocated jobs could result in higher productivity of those workers and, thus, higher incomes. The net gain in income can be captured by the BCA, but not all of the income that shifted from Tennessee. Or maybe the road improvements and pedestrian bridge will reduce gasoline usage while encouraging more walking. Lower automobile emissions means cleaner air, which has a positive health impact, as does more walking, all of which can be converted to dollar values in reduced health care or lower pollution clean-up costs.

In this particular case, not all improvements are projected to achieve individual net benefits. Vehicular re-routing because of the pedestrian bridge will actually increase vehicle idling time and gasoline emissions. Our study determined that the increased costs will be more than offset by dollar benefits achieved by higher real estate values, increased safety, and greater amounts of walking.

When the Arch Grounds plan is implemented, it will certainly yield both gross and net economic benefits for St. Louis and for the nation. But it takes a great deal of funding to reach success, and it takes a great financial analysis to justify the funding. DS is proud to have contributed our expertise to help inform and shape the planning and funding process for the CAR 2015 plan.



(Left) View of new entrance to the Gateway Arch from the proposed pedestrian bridge.



Images provided by CityArchRiver and MVVA

(Right) View of enhanced walkways and reflecting ponds at the Jefferson National Expansion Memorial.